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A SWIFT GUIDE TO BUTTERFLIES OF NORTH AMERICA, SECOND EDITION.

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A SWIFT GUIDE TO BUTTERFLIES OF NORTH AMERICA, SECOND EDITION. Jeffrey Glassberg. 2017. Princeton University Press, Princeton, New Jersey, USA. 420 pages. $29.95 (paperback). ISBN: 9780691176505.

As soon as I got my hands on A Swift Guide to Butterflies of North America, I immediately checked the species account for Aphrodite Fritillary (*Speyeria aphrodite*). The prairie version of this species can be sufficiently different from the typically illustrated nominate subspecies such that it must be specifically explained as being distinct. This book passed my first test—describing details that were not only essential for identifying this fritillary species but also for realizing how similar its underside can be to our prairie specialty, the stunning Regal Fritillary (*S. idalia*).

Much of my research on butterflies occurs in grasslands. For a butterfly field guide to work well in prairies, it must provide continent-wide coverage. Books of lesser scope inevitably consider the midcontinent region as marginal instead of central to their coverage. But a continent-wide book necessarily includes many species irrelevant to prairies. To aid readers in separating out some of those species, this guide clearly codes the many species recorded or possible only in far southern areas.

The deliberately minimal introduction describes the book's organization, color coding, symbols, and the basics of butterfly identification and biology. The brief conclusion includes a selected bibliography, short list of websites, and three kinds of index: caterpillar food plant, butterfly species, and visual index to butterfly groups. Almost all of this field guide is devoted to species accounts, primarily organized by family (color coded on page edges), but with a separate section for Hawaii.

This is a twenty-first century style of field guide, analogous to a bullet-point slide presentation. Each species gets one large photo with insets to illustrate the other side of the wings, differences between sexes, and geographical variation. Some species require more space and get it, or are shown in multiple parts of the book for easy comparison to other species. Pointers call attention to key identification features, and the spare text is in phrases. Little space is left for range maps, which are relatively small but still functional. Color coding conveys the number of generations per year and biogeographic affiliation. This book is a bit larger than the typical field guide—wonderful for photographic detail, but bulky in the field.

I was initially skeptical that I could like this layout as much as the format that I have imprinted on (i.e., text and range maps on left page, illustrations on right). I also thought I would miss having more explanatory text. But four species are usually in view at once (two per page)—similar to traditional field guides—and test after test, this book's format kept working for me. For example, it effectively cross-references to similar looking but not closely related species, including obscure examples such as Sooty Hairstreak (*Satyrium fuliginosa*) and Boisduval's Blue (*Plebejus icarioides*), which range barely east onto the High Plains.

It seems churlish to want even more photos. But it would have helped if the federally endangered Karner subspecies (considered a distinct species by some) of Melissa Blue (*Plebejus melissa*) had gotten its own separate account. The only photo example provided of a female Karner Blue (*P. m. samuelis*) was one from Albany, New York, but the Karner Blue females in Wisconsin (a stronghold of this taxon's range in pine barrens and brush prairies) closely resemble the nominate subspecies (*P. m. melissa*), which is primarily found in the western United States but also is recorded in Wisconsin. It matters a great deal (both biologically and legally) which taxon you are finding.

The author's obvious dedication to butterflies is infectious: so many amazing photos and such tremendous personal knowledge. The flip side of that passion is his strongly voiced admonition on commercially raised butterfly releases for non-scientific purposes and collecting specimens. These views could be expressed in less space, thus allowing more room for more explanation of terms unfamiliar to novices, who are not the only ones with misconceptions about butterflies. For example, many people I have talked to assume that most butterflies are migratory when in fact few are. Most butterfly species are primarily resident in their breeding range year-round, subject to all that happens in their habitat and surviving cold winters in diapause in a particular life stage.

Thus, I looked for clear definitions of the inside lingo of this book. I did not find one for "immigrant," which means a tendency for a butterfly to wander outside of its year-round residential range, but not regularly migratory like the Monarch (*Danaus plexippus*). The "Flight Period" section could have made clearer that this term means the entire time when a species is in the adult life stage. Novices may confuse this phrase to mean a specific period when the adult disperses or migrates. Our midcontinent's wide open spaces are conducive to such movement, but most prairie specialties show remarkable lack of wanderlust. I would also have preferred more information on butterfly behavior—especially "perching territoriality," because it is handy to know that individuals of certain species may return near the area where they were flushed.

The range maps are color coded, not only to portray current ranges but also former ranges (coded in black), although this may more reflect the degree to which current knowledge is or is not readily available to the public. I especially appreciated seeing depictions of range losses (i.e., extirpations) portrayed for some prairie species that I have studied: Poweshiek Skipperling (*Oarisma poweshiek*) and Ottoe Skipper (*Hesperia ottoe*). However, I found a potentially confusing range map symbol, a black open circle, which I did not find explained in the introduction. In some places, this symbol called attention to a tiny outlier or extant location that might otherwise have

been overlooked. But for Poweshiek Skipperling, the three black circles appeared to enclose only black (extirpated) except perhaps for a bit of green (extant) in one circle that I could only see when I used a magnifying glass. The rest of the range for this species is black, indicating that the species has been extirpated from this entire area (unfortunately, all too well documented). The text indicates the species is still (barely) extant, but this account was not exactly clear where the species still occurred. However, most range maps that I closely examined made sense and corresponded to other sources of information. I could quibble about the range map for Western Tailed-Blue (*Cupido amyntula*), which does reach southeastward into far northwest Wisconsin's brush prairies and barrens. That extension is hard to discern from the map, but is a very minor range-edge judgment. More noteworthy was how the northward extents of some common southern species (e.g., Eastern Tiger Swallowtail [*Papilio glaucus*] and Red-spotted Purple [*Limenitis arthemis astyanax*]) are downplayed, in comparison to range maps in a website that he recommends (*www.wisconsinbutterflies.org*).

It is standard for me to have two field guides available when I am in the field. No single guide is sufficient, and sometimes even two are insufficient, hence my library of guides at home. Should this book be one of those two at hand in the field? Definitely. In fact, I have found that this book is now the first guide that I grab, whether in the field or at home, entirely because of its large, high resolution photos of representative individuals. I do not know how well this book would work for novices—would they be overwhelmed by having to figure out what to look for in the photos, codes, and small range maps on their own? I believe that the author would agree with me that it is less important which type of field guide works best for you, given that he has written a number of field guides in a variety of formats. Instead, what matters is that you are using whatever field guide(s) that work for you. More important yet is what users do with the information that they learn from field guides, and that is as urgent a need in prairies as anywhere else.

Finally, in the interest of transparency, I must disclose my professional relationship with the author of this guide. In 1992, the author of this book invited me onto the founding board of directors for the North American Butterfly Association (NABA), not based on personal acquaintance but rather on my involvement in the 4th of July Butterfly Count Program. I stepped down from that board in 2004. In the 1990s, I also contributed timing data for Wisconsin butterflies to a different field guide by this author, but we have not collaborated as authors on any published works. [Please note that the scientific names for species in this field guide followed the conventions of the NABA checklist (*http://www.naba.org/pubs/checklst.html*), whereas the nomenclature in this review follows the Integrated Taxonomic Information System (*https://www.itis.gov/*)]—*Ann B. Swengel, independent scientist (no affiliation), 909 Birch Street, Baraboo, Wisconsin 53913, USA.*